

# Zion Landfill

Zion, Illinois

## Surface Emissions Monitoring

3<sup>rd</sup> Quarter 2015 Report

Prepared By:



**American Environmental Group**

3600 Brecksville Road  
Richfield, Ohio 44286  
(330) 659-5930



September 11, 2015

Advanced Disposal  
Zion Landfill  
Jim Lewis  
701 Green Bay Road  
Zion, IL 60099

RE: Advanced Disposal Zion Landfill – 2<sup>nd</sup> Quarter 2015 NSPS Surface Scan

Dear Mr. Lewis,

American Environmental Group (AEG) prepared the enclosed report documenting the results of the 3<sup>rd</sup> Quarter 2015 NSPS surface scan at Advanced Disposal Zion Landfill. The initial monitoring event was performed on July 31, 2015. We noted no (0) exceedances of the 500 parts per million methane by volume (ppm) standard at the facility during the initial scan event.

In summary, the site met the NSPS standards for surface emissions for the 3<sup>rd</sup> Quarter 2015 Surface Scan event, and no further action is required. Field monitoring forms are attached for your files.

**Weather Conditions**

Weather conditions recorded during the monitoring events were as follows:

July 31, 2015:

- Temperature approximately 73° Fahrenheit
- Relative humidity of 53 percent
- Barometric pressure of 29.94”Hg
- Wind West northwest at about 6 mph
- Clear skies

In accordance with NSPS regulations, these monitoring events were performed during typical meteorological conditions.

The survey was conducted in accordance with the regulations set forth in the New Source Performance Standard (NSPS), 40 CFR 60.755 (c) and (d); (2) 40 CFR 60, 40 CFR 60.753(d) - Surface Scan Requirements, Appendix A – Method 21. A Photovac (MicroFID) was used to perform the emissions monitoring. During the event, attention was given to monitoring unusual cover conditions (stressed vegetation, cracks, seeps, etc.) and areas with unusual odors. The MicroFID was calibrated at the beginning of each day, prior to performing the monitoring, in accordance with Method 21 compliance requirements. Calibration logs were completed by the field technician performing the work, and are included in Attachment A. During the monitoring event, AEG observed that the ground surface appeared to be in good condition overall and there were no unusual odors noted. Results are presented in the attached forms.

Please call Dave Ovanek at (815) 671-0203 if you have any questions.

Sincerely,

A handwritten signature in cursive script that reads "Pam Nyiri".

Pam Nyiri  
Environmental Data Coordinator III  
American Environmental Group, Ltd.

On Behalf of  
Dave Ovanek  
Project Manager  
American Environmental Group, Ltd.

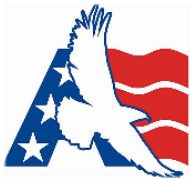
Attachments: Surface Emissions Monitoring Calibration Logs  
Surface Emissions Monitoring Log  
Surface Emissions Monitoring Topographic Map with Monitoring Route

Cc: Jim Hitzeroth, Republic Services, Inc – Electronic

# Zion Landfill

Zion, Illinois

## Surface Emissions Monitoring Calibration Logs



## CALIBRATION PRECISION TEST RECORD

Initial Event: July 31, 2015

LANDFILL NAME: Zion Landfill-ADS EVENT: 3rd Quarter 2015 SEM

INSTRUMENT MAKE: Photovac MODEL: MicroFID SERIAL #: CZHJ319

PERFORMED BY: TroyVoyles TIME: 930am DATE: July 31, 2015

Calibration Gas Standard: 500ppm CH<sub>4</sub>

### MEASUREMENT # 1:

Meter Reading for Zero Air: 1.0 ppm (1)

Meter Reading for Calibration Gas: 501.0 ppm (2)

### MEASUREMENT # 2:

Meter Reading for Zero Air: 1.0 ppm (3)

Meter Reading for Calibration Gas: 502.0 ppm (4)

### MEASUREMENT # 3:

Meter Reading for Zero Air: 1.0 ppm (5)

Meter Reading for Calibration Gas: 501.0 ppm (6)

### CALCULATE PRECISION:

Must be less than 10%

$$\frac{|500 - (2)| + |500 - (4)| + |500 - (6)|}{3} \times \frac{1}{500} \times \frac{100}{1} = \underline{0.267\%}$$



## INSTRUMENT RESPONSE TIME TEST RECORD

Initial Event: July 31, 2015

LANDFILL NAME: Zion Landfill-ADS EVENT: 3rd Quarter 2015 SEM

INSTRUMENT MAKE: Photovac MODEL: MicroFID SERIAL #: CZHJ319

PERFORMED BY: TroyVoyles TIME: 938am DATE: July 31, 2015

### MEASUREMENT # 1:

Stabilized Reading Using Calibration Gas: 507.0 ppm  
90% of the Stabilized Reading: 456.3 ppm  
Time to Reach 90% of Stabilized reading after switching  
from Zero Air to Calibration Gas: 5.0 seconds (1)

### MEASUREMENT # 2:

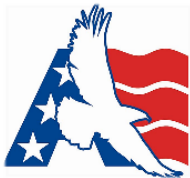
Stabilized Reading Using Calibration Gas: 503.0 ppm  
90% of the Stabilized Reading: 452.7 ppm  
Time to Reach 90% of Stabilized reading after switching  
from Zero Air to Calibration Gas: 6.0 seconds (2)

### MEASUREMENT # 3:

Stabilized Reading Using Calibration Gas: 504.0 ppm  
90% of the Stabilized Reading: 453.6 ppm  
Time to Reach 90% of Stabilized reading after switching  
from Zero Air to Calibration Gas: 6.0 seconds (3)

### CALCULATE RESPONSE TIME:

Must be less than 30 seconds 
$$\frac{(1) + (2) + (3)}{3} = \underline{5.667} \text{ seconds}$$



## CALIBRATION PROCEDURE & BACKGROUND DETERMINATION REPORT

Initial Event: July 31, 2015

LANDFILL NAME: Zion Landfill-ADS EVENT: 3rd Quarter 2015 SEM

INSTRUMENT MAKE: Photovac MODEL: MicroFID SERIAL #: CZHJ319

PERFORMED BY: TroyVoyles TIME: 945am DATE: July 31, 2015

### CALIBRATION PROCEDURE

1. Allow instrument to internally zero itself while introducing zero air.

2. Introduce the calibration gas into the probe.

Stable Reading = 501.0

3. Adjust meter to read 500 ppm.

### BACKGROUND DETERMINATION PROCEDURE

1. Upwind Reading (highest in 30 seconds):

Location: GMP05 2.1 ppm (1)

2. Downwind Reading (highest in 30 seconds):

Location: GMP16 1.5 ppm (2)

### CALCULATE BACKGROUND VALUE

$$\frac{(1) + (2)}{2} = \underline{1.8} \text{ ppm}$$

# Zion Landfill

Zion, Illinois

Surface Emissions Monitoring Logs



**Individual Monitoring Exceedance**  
**Surface Monitoring Design Plan**

Use this form to record an individual monitoring exceedance and follow-up monitoring activities.

This form is only used when a reading of 500 ppm above background is encountered during the surface monitoring.

\*Use a separate form for each initial exceedance.\*

**Initial Monitoring Exceedance: #1**

No Exceedances

Date: \_\_\_\_\_ Time: \_\_\_\_\_ am/pm Monitoring Technician Initials: \_\_\_\_\_  
Instrument reading - Background reading: \_\_\_\_\_ ppm - \_\_\_\_\_ ppm = \_\_\_\_\_ ppm

Location of monitored exceedance (include description of field marker used): \_\_\_\_\_

Describe cover maintenance or adjustments to the vacuum of adjacent wells to increase gas collection in vicinity of measured exceedance before remonitoring in 10 days: \_\_\_\_\_

**Remonitor location within 10 calendar days of initial exceedance:**

Date: \_\_\_\_\_ Time: \_\_\_\_\_ am/pm Monitoring Technician Initials: \_\_\_\_\_  
Instrument reading - Background reading: \_\_\_\_\_ ppm - \_\_\_\_\_ ppm = \_\_\_\_\_ ppm

If 10 day remonitoring shows an exceedance, describe additional corrective action taken before remonitoring again within 10 days: \_\_\_\_\_

If the 10 day remonitoring is <500 ppm, remonitor **1 month** from initial exceedance:

Date: \_\_\_\_\_ Time: \_\_\_\_\_ am/pm Monitoring Technician Initials: \_\_\_\_\_  
Instrument reading - Background reading: \_\_\_\_\_ ppm - \_\_\_\_\_ ppm = \_\_\_\_\_ ppm

If the 1 month remonitoring is <500 ppm, resume normal quarterly monitoring.

If the 1 month remonitoring shows an exceedance, describe additional corrective action taken before remonitoring again within 10 days: \_\_\_\_\_

**Remonitor location within 10 calendar days of 2nd exceedance:**

Date: \_\_\_\_\_ Time: \_\_\_\_\_ am/pm Monitoring Technician Initials: \_\_\_\_\_  
Instrument reading - Background reading: \_\_\_\_\_ ppm - \_\_\_\_\_ ppm = \_\_\_\_\_ ppm

If the 10 day remonitoring is <500 ppm, remonitor 1 month from initial exceedance:

Date: \_\_\_\_\_ Time: \_\_\_\_\_ am/pm Monitoring Technician Initials: \_\_\_\_\_  
Instrument reading - Background reading: \_\_\_\_\_ ppm - \_\_\_\_\_ ppm = \_\_\_\_\_ ppm

If the 1 month remonitoring is <500 ppm, resume normal quarterly monitoring.

If the 1 month remonitoring shows an exceedance, describe additional corrective action taken before remonitoring again within 10 days: \_\_\_\_\_

(use additional forms if necessary)\*

\*If monitoring shows 3 exceedances within a quarterly period a new well or other collection device must be installed within 120 days of initial exceedance or alternative remedies/timelines may be submitted to the Administrator for approval. Further monitoring is not necessary until the remedy is completed. The 3 exceedances do **not** have to be consecutive.

# Zion Landfill

Zion, Illinois

Surface Emissions Monitoring

Topographic map with monitoring route

Zion Landfill 3rd Qtr 2015 SEM  
Technician: Troy Voyles  
7/31/15  
No exceedances

